Kentucky Public Health
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TEAM KENTUCKY

TB Nurse Case Management Clinical Pathway Checklist

Purpose:

The TB Nurse Case Management Clinical Pathway Checklist (NCMCPC) is a tool, which provides a sequential list of elements to be completed during the care of a TB suspect/case. It is intended to assist all nurses who:

- Would benefit from a simplified list of day by day components of TB nurse case management
- Are generalists in Public Health Nursing (involved in all, or many, programs provided by your district)
- Are new to TB nurse case management
- Practice in districts with a low incidence of TB
- Just prefer a reminder system to be sure all 'bases are covered"

This tool covers major steps and not details. It is meant to be simple to use, reduce missed opportunities, assist in organization of care, enhance TB Nurse case management training and most importantly, improve TB outcomes.

The checklist has items that may or may not apply to your case.

Instructions:

- The tool is divided into weeks with tasks that should be completed at that time.
- The weeks are listed for one through 36 weeks.
- This period includes the time for when a case that might complete treatment at 4 months, six months, or nine months.
- If a case continues TB treatment past 9 months, the checklist will have to be tailored for a case's individual needs.
- The last two columns allow the TB coordinator, TB nurse case manager or outreach worker to initial and date, as tasks are completed.
- Each task may not be completed in the order they appear on the checklist but should be completed within that week.

Tips

- Understand that you may receive report of a TB suspect or case from many different sources, e.g., community physician, hospital, state or commercial laboratory, and/or LHD walk-in. Often times when the patient is in the hospital, the LHD TB Coordinator becomes the facilitator for patient care with the hospital staff.
    - Always determine "Is this patient infectious?" Advise patient to maintain **Airborne Infection Isolation** either at home or in the hospital until patient meets requirements for release from isolation.
    - LHD TB Coordinator will need to **perform a home visit** if patient is not hospitalized to begin patient care within 24 hours of notification. If patient is in hospital, TB Coordinator should establish relationship with hospital infection preventionist to ensure appropriate patient care and discharge planning. The LHD TB Coordinator should visit patient with any extended hospital stay.
    - Has pulmonary TB been fully assessed for diagnosis? **TB Risk assessment, BAMT or TST, CXR or CT scan and (3) three sputum specimens submitted for AFB-smear and culture are the gold standard for pulmonary TB diagnosis?** If not, LHD TB Coordinator or hospital physician can complete. Sputum specimens for AFB-smear and culture should be sent to state laboratory if in home environment. It is recommended that a minimum of (1) sputum specimen for AFB-smear and culture be sent to the state laboratory for hospitalized patients.
    - If the reported case has Extrapulmonary TB, remember that pulmonary TB still needs to be excluded. A TB Risk Assessment, BAMT or TST, and three (3) sputum specimens should be sent for AFB-smear and culture. Is this patient potentially infectious? *Consider Airborne Infection Isolation and PCR.
    - **Has PCR (GeneXpert, NAAT) been performed on sputum**? If not, obtain a sputum specimen, and send to state laboratory. If in hospital, may have hospital laboratory send specimen to state laboratory if the hospital lab cannot perform PCR with RIF sensitivity. Notify KY TB Program of all requests for PCRs.
    - If sputum culture confirmed for MTB (culture has grown TB) from hospital laboratory, has **the isolate been sent to the state laboratory?**
    - If the **specimen source is not sputum**, contact KY TB Program. TB Program staff will assist in having the specimen sent to the appropriate laboratory for testing. *Remember even if specimen was sent to another laboratory the state laboratory should receive a sample, too! **Ask for this early in the process**! Many times these specimens are disposed of after the initial testing at the hospital or national reference laboratory.
    - Remember, "**Get the bugs before you give the drugs!"**

TB Case Management Clinical Pathway Checklist			
Initial Report	Review and report all information from the reporting source to the TB Program 502 564 4276 and your program authorities. Report TB suspect or TB case in NEDSS within one business day.	Done (initials)	Date
Week 1	Obtain all medical records include labs, x-rays and any other medical information that will assist in the care of the TB patient		
	Are medical interpreter services needed? If yes, arrange for a medical interpreter to assist.		
	Is patient isolated? If not isolate patient immediately.		
	Arrange to visit patient in home or medical care facility.		
	Obtain 3 sputum specimens; observe one of the three to be obtained, and send to state lab. Place orders for sputum's in Outreach to include PCR testing (GeneXpert). See sputum collection recommendations in CCSG. http://chfs.ky.gov/NR/rdonlyres/68BCF2EE-8A89-450F-967D-5980AD1EC981/0/SputumCollectionRecommendations.pdf		
	If specimen is not at state lab, notify outside lab an arrange for isolate to be sent to the state lab for drug susceptibilities and genotyping Place all sputum and isolate results on TB 18 form TB Clinic Bacteriology Report.		
	Obtain a complete medical history including signs, symptoms & duration of symptoms of TB disease. May use TB H&P 13 form for initial visit and use TB 20 follow-up form for all TB clinic follow-up visits		
	Perform interview to confirm client medical/psychosocial and demographic information is correct.		
	Determine the infectious period and site of disease.		
	If base line chest x-ray has not been completed repeat chest x-ray. Inform patient that a repeat chest x-ray will be done two months after patient is on effective TB therapy and at end of treatment.		
	Offer HIV counseling and testing. Draw blood for HIV. Obtain baseline tests/results, for liver enzymes, bilirubin, creatinine, CBC, platelet count, uric acid (if PZA prescribed), as ordered. (CMP, CBC and HIV).		
	Perform base line eye exam for visual acuity and color blindness test Place on TB H&P 13 and on all TB-20 follow-up forms.		
	If streptomycin is to be used, baseline audiogram should be performed.		
	Place TST or draw blood specimen for BAMT.		
	Weigh patient to determine correct dosage amount for standard 4 drug therapy RIPE http://www.currytbcenter.ucsf.edu/products/drug-resistant-tuberculosis-survival-guide-clinicians-3rd-edition/chapter-5-medication-fact "Drug-Resistant Tuberculosis" p. 99-172.		
	Document results for TST or BAMT, and HIV test on TB Clinic Surveillance Report TB 19.		
	Provide TB educational and materials record on TB-25 form TB Clinic Education Counseling Record.		
	Explain overview of treatment plan including need for daily directly observed therapy (DOT) and monthly clinic visits. Provide contact information for clinic and DOT nurse or outreach worker.		

TB Case Management Clinical Pathway Checklist			
Continued Week 1	Prioritize Contacts identified and initiate contact investigation. Please see Contact investigation guidance in CCSG and MMWR http://www.cdc.gov/mmwr/pdf/rr/rr5415.pdf Guidelines for the Investigation of Contacts of Persons with Infectious Tuberculosis If Contact investigation includes congregate setting and or media attention, please notify the TB program immediately. Please use TB risk assessment TB-4 when interviewing all contacts.	Done (initials)	Date
	Have patient sign DOT consent form TB-15 or TB-15(a) if DOT dates changes at any time please have patients sign a new form.		
	Assess home environment for transmission potential and additional contacts		
	Begin DOT once three sputum's have been obtained. Use TB-17 DOT form. There are two versions TB 17 (a) has initial and continuation phase. TB-17 (b) is DOT form with initial and continuation phases separated. TB-17 (c) is the dosage tracking record for missed doses.		
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Week 2	Discuss barriers for adherence and other client needs, implement a plan to address. Include in plan of care to offer smoking cession if patient is a smoker. Counsel patient if they consumer ETOH.		
	Continue daily DOT and monitor for any side effects count and record doses.		
	Continue contact investigation and evaluations of contacts provide results to the TB program and place information on TB-2 Contact Roster.		
	Discuss what incentives or enables will help if barriers to treatment and or adherence concerns are identified and offer if applicable.		
	Notify the TB program of any barriers or adherence concerns.		
	If HIV test is positive, refer patient to HIV clinic, notify the TB program and notify medical provider for new plan in treatment.		
	Provide education for any questions TB patient may have chart on TB-25 education form.		
	Enter NEDSS RVCT to be done within two weeks from when reported.		
Week 3	Continue to collect three sputum specimens, 8 to 24 hours apart for AFB smear and culture until culture conversion. If patient cannot produce any sputum, please consider methods to aide in getting sputum specimen. Follow CCSG for sputum collection recommendations.		
	Continue daily DOT monitor for side effects, count doses and record.		
	Monitor for smear conversion to determine isolation status of patient.		
	Please use MMWR criteria to determine when to release patient out of isolation http://www.cdc.gov/MMWR/PDF/rr/rr5412.pdf "Controlling Tuberculosis in the United States, page 9 box 3.		
	If patient is taking EMB, do eye exam with acuity and color test		

TB Case Management Clinical Pathway Checklist			
Continued Week 3	Review the results of the drug susceptibilities, if patient has a resistance to any first or second line drug notify the TB program immediately. This information will determine if a change in medication is needed to treat your TB patient and contacts related to the index case. Notify the clinician immediately.	Done (initials)	Date
	If patient starts having compliance issues with DOT, notify TB program once patient has missed two doses. May need to serve a health order or take further legal action so patient will comply.		
	Make sure isolate sample has been sent for genotyping.		
	Complete first round of contact investigation and evaluations of contacts; provide results to the TB program and place information on TB-2 contact roster. Notify the TB program if there are any convertors.		
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Week 4	First monthly clinic visit with medical provider should include weight, eye exam with color vision test if on EMB, audiogram if on SM or Capreomycin, recheck labs CBC and CMP if abnormal at base line. If HIV testing has not been completed, offer HIV testing again until patient consents or completes therapy.		
	Continue daily DOT and monitor for any side effects, barriers or adherence concerns with treatment. Count and record total doses.		
	Obtain next set of 3 sputum specimens, 8 to 24 hours apart; should be collected 2 weeks after 4-drug therapy was initiated.		
	Continue to monitor for smear and culture conversion.		
	Provide education and chart on TB-25.		
	If patient is susceptible to all 4 drugs, EMB can be discontinued. Notify clinician or results.		
	Please use MMWR criteria to determine when to release patient out of isolation http://www.cdc.gov/MMWR/PDF/rr/rr5412.pdf "Controlling Tuberculosis in the United States, page 9 box 3.		
Week 5	Continue daily DOT monitor for medication side effects, count doses and record.		
	Provide education and chart on TB-25.		
	Identify any barriers to treatment and or adherence concerns. Discuss what incentives or enables will help if applicable.		
	Notify the TB program of any barriers or adherence concerns.		
	Obtain next set of 3 sputum specimens, 8 to 24 hours apart if not completed the week before. At this time, you should have sent 2 sets of three sputum specimens to state lab after medications were started.		

TB Case Management Clinical Pathway Checklist			
Continued Week 5	Continue to monitor for smear and culture conversion. If smears continue to be AFB smear-positive, ensure patient is taking medications during DOT. Look for cheeking or any other activity that may indicate they are not taking the medication.	Done (initials)	Date
	If patient is a smoker offer smoking cessation. If patient is drinking ETOH, counsel patient. Continue to educate patient about smear and culture conversion especially if patient is still isolated. Document on TB-25 form.		
	Please use MMWR criteria to determine when to release patient out of isolation http://www.cdc.gov/MMWR/PDF/rr/rr5412.pdf "Controlling Tuberculosis in the United States, page 9 box 3.		
	If patient is continued on EMB, do eye exam with acuity and color test.		
	Up-date NEDSS RVCT for reporting to CDC.		
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Week 6-7	Continue daily DOT and monitor for any side effects, barriers or adherence concerns with treatment. Count and record total doses.		
	If drug susceptibilities are still pending, call the state lab or notify the TB Program for assistance.		
	Continue to monitor for smear and culture conversion.		
	Obtain next set of 3 sputum specimens, 8 to 24 hours apart if not completed the week before. At this time, you should have 3 sets of three sputum specimens at state lab after medications were started.		
	Please use MMWR criteria to determine when to release patient out of isolation http://www.cdc.gov/MMWR/PDF/rr/rr5412.pdf "Controlling Tuberculosis in the United States, page 9 box 3.		
	If you have questions regarding isolation concerns, please notify the TB Program 502 564 4276.		
	If patient is continued on EMB, do eye exam with acuity and color test.		
Week 8	Second monthly clinic visit with medical provider should include weight, eye exam with color vision test if on EMB, audiogram if on SM or Capreomycin, recheck labs CBC and CMP if abnormal at base line. If HIV testing has not been completed, offer HIV testing again until patient consents or completes therapy.		
	Repeat Chest X-ray if patient has been on 2 months of effective 4-drug therapy.		
	Obtain next set of 3 sputum specimens, 8 to 24 hours apart if not completed the week before. At this time, you should have sent 4 sets of three sputum specimens to state lab after medications were started.		

TB Case Management Clinical Pathway Checklist			
Continued Week 8	Continue DOT, count doses, and make sure patient has taken total of 40 doses of PZA. If any doses were missed in the initial phase, they need to be made up at this time before moving to continuation phase.	Done (initials)	Date
	If patient has completed initial phase of treatment, begin continuation phase of treatment. Have patient sign a new DOT consent form with new plan of TB treatment. Educate patient about change and document on education form TB-25.		
	Do second round testing for contact investigation and record on same TB-2 contact roster. Notify the TB program if there are any convertors.		
	If drug susceptibilities are not final, investigate with state lab or the TB Program as to why results are still pending.		
	Continue to monitor for smear and culture conversion.		
	Please use MMWR criteria to determine when to release patient out of isolation http://www.cdc.gov/MMWR/PDF/rr/rr5412.pdf "Controlling Tuberculosis in the United States, page 9 box 3.		
Week 9-11	Continue DOT, count doses and monitor patient for side effects. Monitor for treatment improvement.		
	Repeat Chest X-ray if patient has been on 2 months of effective 4-drug therapy if not completed previously.		
	Obtain next set of 3 sputum specimens, 8 to 24 hours apart if not completed the week before. At this time, you should have sent 5 sets of three sputum specimens to state lab after medications were started.		
	Continue to monitor for smear and culture conversion		
	Please use MMWR criteria to determine when to release patient out of isolation http://www.cdc.gov/MMWR/PDF/rr/rr5412.pdf "Controlling Tuberculosis in the United States, page 9 box 3.		
	Up-date NEDSS RVCT		
Week 12	Third monthly clinic visit with medical provider should include weight, eye exam with color vision test if on EMB, audiogram if on SM or Capreomycin, recheck labs CBC and CMP if abnormal at base line. If HIV testing has not been completed, offer HIV testing again until patient consents or completes therapy.		
	Continue DOT, count doses and monitor patient for side effects. Monitor for treatment improvement		
	Obtain next set of 3 sputum specimens, 8 to 24 hours apart if not completed the week before. At this time, you should have sent 6 sets of three sputum specimens to state lab after medications were started.		

TB Case Management Clinical Pathway Checklist			
Continued Week 12	Continue to monitor for smear and culture conversion if cultures are positive at 3 months from effective TB therapy; consider repeating drug susceptibilities, obtaining drug levels for INH and RIF, and repeating any radiological studies. Consult SNTC 1-800-482-4636. The TB program will be assisting at this time to help with any SNTC recommendations.		
	Complete second round of contact investigation and evaluations of contacts provide results to the TB program and place information on the same TB-2 contact roster. Notify the TB program if there are any convertors. Once completed fax to 502-564-3772.	Done (initials)	Date
Week 13-15	Continue DOT, count doses and monitor patient for side effects. Monitor for treatment improvement		
	Obtain next set of 3 sputum specimens, 8 to 24 hours apart, if not completed the week before. At this time, you should have sent 7 sets of three sputum specimens to state lab after medications were started.		
	Monitor for smear and culture conversion. At this time, patient should be smear and culture negative; if not as stated above SNTC and the TB program will be assisting in case management of TB patient.		
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Week 16	Fourth monthly clinic visit with medical provider should include weight, eye exam with color vision test if on EMB, audiogram if on SM or Capreomycin, recheck labs CBC and CMP if abnormal at base line. If HIV testing has not been completed, offer HIV testing again until patient consents or completes therapy.		
	Continue DOT, count doses and monitor patient for side effects. Monitor for treatment improvement		
	Continue to monitor for smear and culture conversion. If cultures are positive at 4 months from effective TB therapy consider repeating drug susceptibilities, obtaining drug levels for INH and RIF, and repeating any radiological studies. Consult SNTC 1-800-482-4636. The TB Program will be involved at this time to assist with SNTC recommendations.		
	If patient is a culture-negative case and will complete treatment at 4 months: Complete dose count and record. Complete final chest X-ray no later than 30 days after treatment. Complete NEDSS RVCT case completion no later than two weeks after patient has stopped medication.		
	Provide patient with local health department contact information and other needed information for their personal medical records if culture- negative case.		
	Provide patient with a TB case completion card if culture-negative case.		

TB Case Management Clinical Pathway Checklist			
Week 17-19	Continue DOT, count doses and monitor patient for side effects. Monitor for treatment improvement.	Done (initials)	Date
	Obtain next set of 3 sputum specimens, 8 to 24 hours apart, every two weeks. At this time, you should have sent 8 sets of three sputum specimens to state lab after medications were started. If patient is having trouble producing sputum at this point, make an effort to collect a sputum specimen. If unable notify the TB program. If patient is culture-negative, continue to collect sputum monthly if patient is able to produce sputum.		
	Monitor for smear and culture conversion. At this time, patient should be smear and culture negative; if not as stated above SNTC and the TB program will be assisting in case management of TB patient.		
	Up-date NEDSS RVCT if not done previously.		
Week 20	Fifth monthly clinic visit with medical provider should include weight, eye exam with color vision test if on EMB, audiogram if on SM or Capreomycin, recheck labs CBC and CMP if abnormal at base line. If HIV testing has not been completed, offer HIV testing again until patient consents or completes therapy.		
	Continue DOT, count doses and monitor patient for side effects. Monitor for treatment improvement.		
	Monitor for smear and culture conversion. At this time, patient should be smear and culture negative, if not as stated above SNTC and the TB Program will be assisting in case management of TB patient.		
Week 21-23	Continue DOT, count doses and monitor patient for side effects. Monitor for treatment improvement.		
	Obtain next set of 3 sputum specimens, 8 to 24 hours apart, every two weeks. At this time, you should have sent 9 sets of three sputum specimens to state lab after medications were started. If patient is having trouble producing sputum at this point, make an effort to collect a sputum specimen. If unable notify the TB program. If patient is culture-negative, continue to collect sputum monthly if patient is able to produce sputum.		
	If patient continues to have positive sputum cultures, TB treatment will be extended 3 more months for a total of 9 months or 36 weeks of TB treatment.		

TB Case Management Clinical Pathway Checklist			
Week 24-26	Sixth monthly clinic visit with medical provider should include weight, eye exam with color vision test if on EMB, audiogram if on SM or Capreomycin, recheck labs CBC and CMP if abnormal at base line. If HIV testing has not been completed, offer HIV testing again until patient consents or completes therapy.	Done (initials)	Date
	Continue DOT, count doses and monitor patient for side effects. Monitor for treatment improvement. Record total doses.		
	Obtain next set of 3 sputum specimens, 8 to 24 hours apart, every two weeks. At this time, you should have sent 10 sets of three sputum specimens to state lab after medications were started. If patient is having trouble producing sputum at this point, make an effort to collect a sputum specimen. If unable, notify the TB program. If patient is culture-negative, continue to collect sputum monthly if patient is able to produce sputum.		
	If patient has been culture negative 2 months after effective TB therapy was started, patient will complete therapy at this time for a total of 6 months of treatment.		
	Complete final chest X-ray no later than 30 days after treatment.		
	Complete NEDSS RVCT case completion within two weeks of patient stopping medication.		
	Provide patient with local health department contact information and other needed information for their personal medical records.		
	Provide them with a TB case completion card.		
Week 27-28	Seventh monthly clinic visit with medical provider should include weight, eye exam with color vision test if on EMB, audiogram if on SM or Capreomycin, recheck labs CBC and CMP if abnormal at base line. If HIV testing has not been completed, offer HIV testing again until patient consents or completes therapy.		
	Obtain next set of 3 sputum specimens, 8 to 24 hours apart, every two weeks. At this time, you should have sent 11 sets of three sputum specimens to state lab after medications were started. If patient is having trouble producing sputum at this point, make an effort to collect a sputum specimen. If unable, notify the TB program. If patient is culture-negative, continue to collect sputum monthly if patient is able to produce sputum.		
	Continue DOT, count doses and monitor patient for side effects. Monitor for treatment improvement.		

TB Case Management Clinical Pathway Checklist			
Week 29-31	Continue DOT, count doses and monitor patient for side effects. Monitor for treatment improvement.	Done (initials)	Date
	Obtain next set of 3 sputum specimens, 8 to 24 hours apart, every two weeks. At this time, you should have sent 12 sets of three sputum specimens to state lab after medications were started. If patient is having trouble producing sputum at this point, make an effort to collect a sputum specimen. If unable, notify the TB program. If patient is culture-negative, continue to collect sputum monthly if patient is able to produce sputum.		
Week 32	Eighth monthly clinic visit with medical provider should include weight, eye exam with color vision test if on EMB, audiogram if on SM or Capreomycin, recheck labs CBC and CMP if abnormal at base line. If HIV testing has not been completed, offer HIV testing again until patient consents or completes therapy.		
	Continue DOT, count doses and monitor patient for side effects. Monitor for treatment improvement.		
	Obtain next set of 3 sputum specimens, 8 to 24 hours apart, every two weeks. At this time, you should have sent 13 sets of three sputum specimens to state lab after medications were started. If patient is having trouble producing sputum at this point, make an effort to collect a sputum specimen. If unable notify the TB program. If patient is culture-negative, continue to collect sputum monthly if patient is able to produce sputum.		
	Begin providing discharge planning for patient to complete therapy in one month for a total of 9 months of treatment.		
Week 33-35	Continue DOT, count doses and monitor patient for side effects. Monitor for treatment improvement.		
	Obtain next set of 3 sputum specimens, 8 to 24 hours apart, every two weeks. At this time, you should have sent 14 sets of three-sputum specimens to the state lab after medications were started. If patient is having trouble producing sputum at this point, make an effort to collect a sputum specimen. If unable, notify the TB program. If patient is culture-negative, continue to collect sputum monthly if patient is able to produce sputum		
	Begin providing discharge planning for patient to complete therapy in one month for a total of 9 months of treatment.		

TB Case Management Clinical Pathway Checklist			
Week 36	Final monthly clinic visit with medical provider should include weight, eye exam with color vision test if on EMB, audiogram if on SM or Capreomycin; recheck labs CBC and CMP if abnormal at base line. If HIV testing has not been completed, offer HIV testing again until patient consents or completes therapy.	Done (initials)	Date
	Continue DOT, count total doses if any doses are missing this is the time that they will be added. Record total doses.		
	Complete final chest X-ray no later than 30 days after treatment.		
	Obtain final set of 3 sputum specimens, 8 to 24 hours apart.At this time, you should have sent 15 sets of three sputum specimens to state lab after medications were started. If patient is having trouble producing sputum at this point, make an effort to collect a sputum specimen. If unable, notify the TB program. If patient is culture-negative, continue to collect sputum monthly if patient is able to produce sputum.		
	Complete NEDSS RVCT case completion within two weeks of patient stopping medication.		
	Provide patient with local health department contact information and other needed information for their personal medical records.		
	Provide the patient with a TB case completion card.		
	Add a final close out nursing note. Include date when patient completed final treatment and final CXR. Include educating patient of signs and symptoms of reactivation and when to contact the health department. Include date that treatment card was issued.		